

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/091375 A1**

(51) International Patent Classification<sup>7</sup>: **H01L 29/786**, 29/423, 29/49, 21/288, 21/336, 21/8234, 21/8238, 27/088, 27/092, G02F 1/13, 1/1368, G09F 9/00

LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).

(21) International Application Number:  
**PCT/JP2005/005298**

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 16 March 2005 (16.03.2005)

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language: English

Published:

— with international search report

(26) Publication Language: English

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

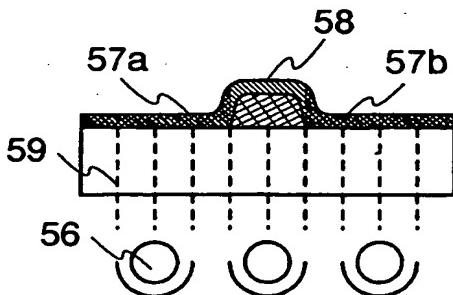
(30) Priority Data:  
2004-081493 19 March 2004 (19.03.2004) JP

(71) Applicant (for all designated States except US): SEMICONDUCTOR ENERGY LABORATORY CO., LTD. [JP/JP]; 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MAEKAWA, Shinji [JP/JP]; c/o SEMICONDUCTOR ENERGY LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP). SHIROGUCHI, Hiroko [JP/JP]; c/o SEMICONDUCTOR ENERGY LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP). FUJII, Gen [JP/JP]; c/o SEMICONDUCTOR ENERGY

(54) Title: METHOD FOR FORMING PATTERN, THIN FILM TRANSISTOR, DISPLAY DEVICE AND METHOD FOR MANUFACTURING THE SAME, AND TELEVISION DEVICE



(57) Abstract: A method for forming a pattern according to the invention comprises the steps of: forming a mask over a substrate having light-transmitting properties; forming a first region having a substance including a light-absorbing material over the substrate and the mask; forming a second region by irradiating the substance with light having a wavelength which is absorbable by the light-absorbing material through the substrate to modify a part of the substance surface; and forming a pattern by discharging a compound including a pattern forming material to the second region.

WO 2005/091375 A1